

Red Dog Mine Risk Assessment Meeting with Noatak Residents April 21, 2005 (3:30 p.m. to about 5:20 p.m.)

Questions and comments raised by attending 30 adult residents of Noatak on April 21, 2005 held at the Noatak school gym regarding a slide presentation on the findings of the risk assessment of the fugitive dust issue from the port to the mine by Scott Shock.

Teck Cominco representative: Jim Kulas and Lucille Wright

Exponent presenter: Scott Shock

DEC attendees: Rich Sundet and Lindsay Smith

Kulas gave a brief overview of the risk assessment process and then Shock gave a slide presentation of the findings.

Comment - The numbers that you get from the risk assessment, was that before you dug up the ground to develop the mine? I ask because I am concerned that each tussock has different timelines.

Response – Kulas - This study started after the mine was initiated. It only focuses on the fugitive dust issue.

Response – Shock - [**Additional Note:** There was some pre-mine data available, but not for all of the metals and environmental media we were looking at. We established a reference area to collect data for comparison with site data.]

Shock then began his presentation.

Comment - The one graph indicates that the study was restricted to the road area. But did you look at the wind direction from the port to the mine?

Response – Shock - Yes we did. The wind and weather information is summarized in our Background Document then we used that information also in our risk assessment.

Comment - What kinds of metals are there in the road?

Response – Shock - There are many metals, so we needed to determine which ones could be a problem. We compared the concentrations of the metals found to protective screening levels set by the government, and if metals detected are found above the screening levels, then we evaluated those metals further in the rest of the risk assessment.

Comment - Are subsistence users in a different category than the normal person?

Response – Shock - No. To be protective, we assumed for this study that each person only eats subsistence foods, no grocery-store or other outside foods. Also, we assumed that each person is eating those metals in food associated with the site. We also assumed that each worker eats 25% subsistence food in his/her diet when they are at the mine working.

Comment - People are at risk because of the dust and why are not more people involved in the risk assessment process?

Response - Kulas - When we say dust is a problem, that does not mean there is a problem to your individual health. The risk assessment shows that there is no significant risk or problem to a group or population. Yes the point of more public comment is valued and this is why we are here now and have previously been here. So please give us your comments now and to DEC later.

Response – Shock - Please call any of us, especially Rich Sundet who will be compiling comments for DEC.

Response – Sundet - Requested the audience to contact him by mail or e-mail on any comment that they may have regarding the risk assessment. He noted that he placed his business cards, copies of comment forms to be completed, and copies of the public notice with DEC's webpage link on the nearby conference table in the gym so that residents can take them and contact Sundet later.

Comment - How do we know if metals are in an animal?

Response – Shock - We'll be talking about that later in the presentation. But for human health we evaluated all information known from field samples in plants, animals, water, soil, etc, and then used the data in the assessment.

Comment - Is there a way to check pre-Red Dog Mine data on the animals?

Response-Shock- There have been some studies that were performed prior to the risk assessment investigation. For example, for caribou there were studies performed in 1996 and 2002 and those findings show similar levels of metals in caribou. [**Additional Note:** There were some animal studies done as part of several environmental baseline studies prior to mine construction. For example, this included sampling of fish (Arctic char and grayling) and water sampling. We used that information where we could. However, metals concentration data was not available for many metals and many sample types. This is why we also collected samples from reference areas when we collected data for use in the risk assessment.]

Comment - How often were the samples taken and what were their locations?

Response – Shock - That depended upon the type of sample. For example, berries were collected a couple of years ago and again last year. Also, in the marine environment several years of data have been collected.

Comment - Have you done a study on what the animals eat?

Response – Shock - Yes. Many studies are available such as what does a caribou eat and how much metals do they take up. We use this information in our modeling effort for the risk assessment.

Comment - Have you taken concentrations of metals in waterfowl versus landlocked animals?

Response - We looked at all foods that animals eat to determine their uptake. We then compare that information to animals of other studies and use that to assess the risk.

[**Additional Note:** We evaluated many types of animals and birds that live in different environments, and that eat different types of foods, including waterfowl and birds that live on land.]

Comment - The reason why I keep going back to inquiring about the pre-Red Dog Mine days is because I think that there was a different chemical makeup then, i.e., during the pre-Red Dog Mine days versus what is observed now. Would it be better to have studies from pre-Red Dog Mine?

Response – Shock - Yes there were a number of studies/samples taken prior to the development of Red Dog Mine, but those studies did not sample for all the metals that we needed to evaluate in the risk assessment.

Comment - How long do we envision that monitoring will occur after the mine ends?

Response – Kulas - We are developing a closure plan for the mine and will monitor forever or until we can show that there is no problem. Also, there is an agreement that we have with the State that we are required to have financial assurance to perform such reclamation and monitoring. [**Additional Note:** Some level of monitoring in road and port areas is also likely on an ongoing basis.]

Comment - Has metal concentrations been increasing since monitoring began?

Response – Shock - We had several ways to look at whether the concentrations did change. For example, we measured over years in the marine sediments and found that metal concentrations have decreased over time because of source control improvements. Also in 2001 and 2004, the 2004 berry sample data show that berry concentrations near the port have decreased over time. All of this needs to be taken into account when developing a risk management plan.

Comment - In Time Magazine last year there was an article on another zinc and lead mine in Oklahoma. It was reported that they can't ever fix or grow things in the area of that mine anymore. So is there any financial way to resolve the Red Dog Mine long-term problems?

Response – Shock - In the old days there were few controls to minimize problems so a lot of mine sites have problems because no controls were in place. We want to prevent that so things can grow again when the mine is done.

Response – Kulas - There are couple of ways that Teck Cominco will look at issues so as not cause a problem at Red Dog Mine:

- 1) NANA owns the land and we have a legal agreement with NANA and one condition is that Teck Cominco/Red Dog Mine can't make a mess and we need to clean it up.
- 2) We need to meet State of Alaska laws and that is why we have a closure plan.

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So yes, the land will look different than it was before the mine began such as a large hole will exist, but we have to address the closure per our agreements to our best methods of reclamation.

***Comment** - On the risk management issue, I invite you, National Park Service (NPS), DEC and others to come back prior to making that decision. Those agencies are talking for us, but we would like to know what you are thinking about while you are determining the risk management decision. So what you are doing now is fine, but we want this communication to continue.

Response – Shock - Thank you for this invitation.

Comment - Can the results of this risk assessment study and future studies be found somewhere?

Response – Shock - One place where these documents can be found is on the DEC webpage and the study is found there, including the draft risk assessment report that we are discussing.

Response – Kulas - A hard copy of the draft risk assessment report is in the Noatak IRA office.

Comment – It feels like this process is going on behind closed doors and we don't know what is going on.

Response – Shock - We are here to include you in the process, and tell about what we are finding. We were here before to talk about our work plan, and get your input on types of foods you eat, before we conducted the assessment. As the risk assessment is completed, we also want to have your involvement as we get into the process of defining a risk management plan, which will include what types of monitoring will be done and how often, and what other actions might need to be taken.

Comment - How can we determine whether there was an effect to an animal such as one that has three (3) legs?

Response – Shock - For these types of contamination, i.e., metals, you probably would not see these types of effects. In the assessment, we look at the potential for effects on growth or reproduction of animals, because we want to know if there is a potential for effects on the population of the animals.

Comment - What has happened since you placed the dust monitors at the mine and port?

Response – Kulas - Those monitors only tell you what the dust is at a given time and they monitor whether our source reduction techniques are working or not. Our monitors at the port show that we are making progress in reducing the fugitive dust. We still have further work to do at the mine to reduce dust.

Comment - Has there been some studies of dead caribou and fish in Alaska?

Response – Shock - Yes there have been and I am aware of some of these studies. For example, Fish & Game has done studies on dead caribou.

Response – Kulas - If you encounter dead animals, you can call Fish and Game. Teck Cominco can also direct you to the proper person or you can contact Roland Booth

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Response – Kulas - [**Additional Note:** Teck Cominco will assist you if you'd like us to. Also, please let us know of any issues that involve Red Dog, we will investigate and report back to you].

Comment - What is the Ikayuqtit Team?

Response – Kulas - The Ikayuqtit Team began when the NPS came out with their findings in 2001 and NANA Corporation (NANA) wanted more information on the contamination issue. The Ikayuqtit Team began with NANA as owners of the property where the mine and port is located, Alaska Industrial Development and Export Authority (AIDEA) as owners of the Delong Mountain Transportation System (DMTS) road, NPS as managers of Cape Krusenstern National Monument where the DMTS goes through, and Teck Cominco as operators of the mine. The team has invited other stakeholders as well that include DEC and EPA. In addition, lately we have included other stakeholders to meetings such as environmental groups like Alaska Community Action on Toxics (ACAT) and Trustees for Alaska.

Comment - Is the analysis of this study available on the web?

Response – Kulas - Yes, the risk assessment document is on DEC's webpage

[**Additional Note:** It is found at: www.state.ak.us/dec/spar/csp/sites/reddog.htm#info]

***Comment** - Can all of this information be summarized?

Response – Kulas - Yes the risk assessment information is summarized to a degree in its executive summary. But that is a good point and I will be back to discuss this further.

***Comment** - I would like to be involved in the development of the management plan.

Response – Kulas - We will involve you and will be back regarding this issue.

***Comment** - Lots of dust is coming out of the stockpile in the ore crushing area.

Response – Kulas - We took those stockpiles and put them in the mine pit to lessen the amount of fugitive dust so that helps some. However, we do need to do more.

Comment - Is dust sampled outside?

Response - Kulas - Teck Cominco ran dust samplers for one year in Noatak and one year at Kivalina. At those monitors, we looked for metals in the air. The regulatory level for lead is $1.5 \mu\text{g}/\text{m}^3$. Our findings from the dust samplers in both Noatak and Kivalina were hundreds of times lower than the regulations allow for lead.

Comment - Are these dust samplers in Noatak paid for by Teck Cominco?

Response - Kulas - Yes we paid for it, but had someone other than Teck Cominco employees do the work.

Response – Kulas - [**Additional Note:** Noatak IRA (IGAP EPA) individuals collected the samples from the samplers. Also, an additional monitor was set up by Maniilaq – it is designed to monitor for dust (Teck Cominco monitored for lead in air).]

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The risk assessment portion of the meeting ended at about 5:20 p.m.